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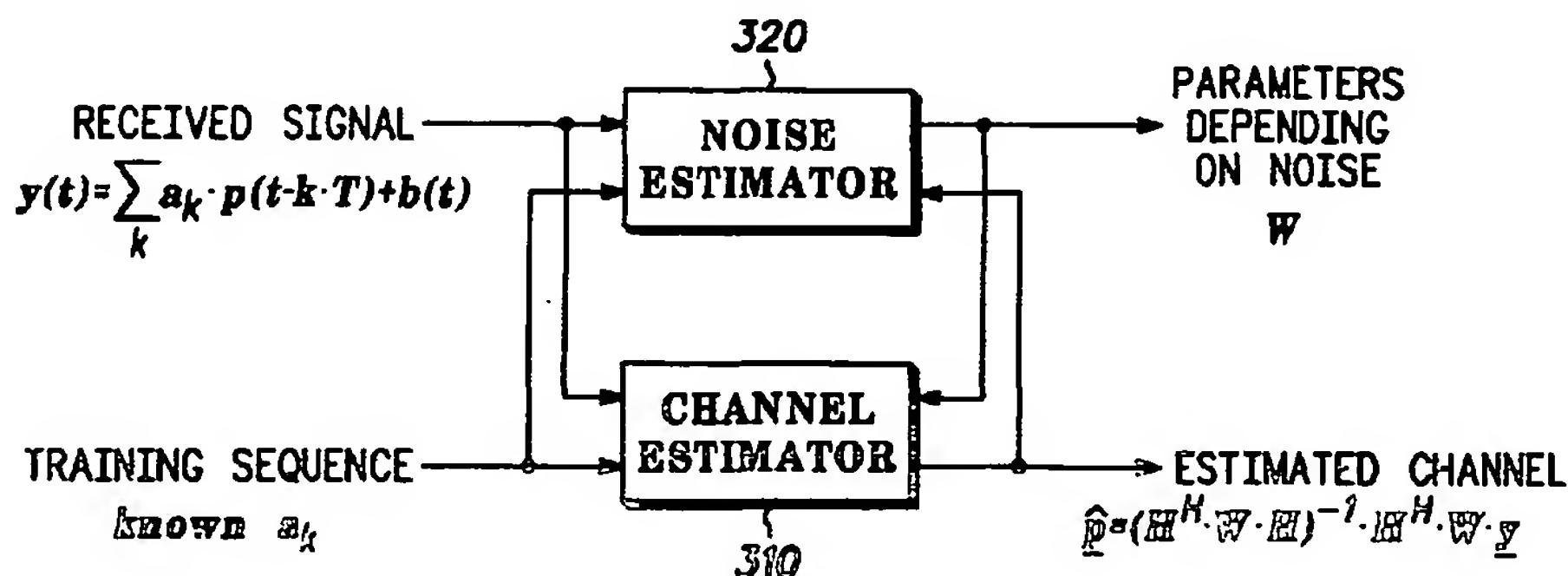
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## (54) Title: ARRANGEMENT AND METHOD FOR ITERATIVE CHANNEL IMPULSE RESPONSE ESTIMATION

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(57) Abstract: An arrangement (300) and method, for iterative channel impulse response estimation in a system such as a GSM/EDGE system employing a transmission channel, by: producing (310) from a received signal ( $y$ ) a channel impulse response estimate signal ( $p$ ); and producing (320) from the received signal ( $y$ ) a noise estimate signal ( $w$ ) which is iteratively fed back to improve the channel impulse response estimate signal ( $p$ ). The noise estimate signal comprises a matrix ( $w$ ) representing the inverse of noise covariance; the matrix may be calculated at each iteration or may be selected from predetermined values corresponding to statistics of expected noise. This provides the advantages of reduced complexity, independence of the equalization method used to produce the channel impulse response estimate signal, and consequent performance improvement.

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 03/06751

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 H04L25/02

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 61950 A (ERICSSON INC) 23 August 2001 (2001-08-23) abstract page 2, line 7 - line 8 page 2, line 16 - line 17 page 9, line 27 -page 12, line 30 page 15, line 5 - line 7 page 15, line 28 -page 16, line 18 figures 2,3 -----	1-20

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO 0161950	A 23-08-2001	AU EP WO	3647901 A 1256215 A1 0161950 A1	27-08-2001 13-11-2002 23-08-2001